

SEQUENCE LISTING

<110> Trimeris, Inc.

<120> HIV-Derived HR1 Peptides Modified to Form Stable Trimers, and
Their Use In Therapy to Inhibit Transmission of Human
Immunodeficiency Virus

<130> TRM-001

<150> US 60/414,514

<151> 2002-09-27

<160> 82

<170> PatentIn version 3.2

<210> 1

<211> 59

<212> PRT

<213> Human immunodeficiency virus type 1

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Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln
1 5 10 15

Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln
20 25 30

Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val
35 40 45

Glu Arg Tyr Leu Lys Asp Gln Leu Leu Gly Ile
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<212> PRT

<213> Artificial

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<223> synthesized

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Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
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Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu
20 25 30

Arg Tyr Leu Lys Asp Gln
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<213> Artificial

<220>
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Gly Ser Thr Met Gly Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg
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Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala
20 25 30

Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr
35 40

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<213> Artificial

<220>
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Gly Ser Thr Met Gly Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg
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Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala
20 25 30

Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys
35 40 45

Gln Leu Gln Ala Arg Ile
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Gly Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser
1 5 10 15

Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln
20 25 30

Gln His Leu Leu
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<212> PRT

<213> Artificial

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<223> synthesized

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Gly Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser
1 5 10 15

Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln
20 25 30

Gln His Leu Leu Gln Leu
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<213> Artificial

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Gly Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser
1 5 10 15

Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln
20 25 30

Gln His Leu Leu Gln Leu Thr Val
35 40

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<213> Artificial

<220>
<223> synthesized

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Gly Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser
1 5 10 15

Gly Ile Val Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln
20 25 30

Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala
35 40 45

Arg Ile
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<213> Artificial

<220>
<223> synthesized

<400> 9

Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly
1 5 10 15

Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln
20 25 30

His Leu Leu Gln
35

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Arg Ser Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile
1 5 10 15

Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His
20 25 30

Leu Leu Gln Leu
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Ser Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val
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Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
20 25 30

Leu Gln Leu Thr
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Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln
1 5 10 15

Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu
20 25 30

Gln Leu Thr
35

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<220>
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Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln
1 5 10 15

Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu
20 25 30

Gln Leu Thr Val
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<220>
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Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln
1 5 10 15

Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln
20 25 30

Leu Thr

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Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln
1 5 10 15

Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln
20 25 30

Leu Thr Val
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Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln
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Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln
20 25 30

Leu Thr Val Trp
35

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Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln
1 5 10 15

Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln
20 25 30

Leu Thr Val Trp Gly
35

<210> 18
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Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln
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Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln
20 25 30

Leu Thr Val Trp Gly Ile
35

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<400> 19

Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln
1 5 10 15

Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln
20 25 30

Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg
35 40

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Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln
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Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
20 25 30

Thr Val Trp Gly
35

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<400> 21

Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
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Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu
35 40

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<400> 22

Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr
35 40 45

<210> 23
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Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys

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Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys Asp Gln
50

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Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala
1 5 10 15

Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln
20 25 30

Ala Arg Ile Leu
35

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<212> PRT

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<220>

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Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala
1 5 10 15

Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln
20 25 30

Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln
35 40 45

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Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
1 5 10 15

Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln
35 40

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<213> Artificial

<220>
<223> synthesized

<400> 28

Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly
1 5 10 15

Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys
20 25 30

Asp Gln

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Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
1 5 10 15

Leu Gln Leu Thr Ala Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln
35 40

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Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
1 5 10 15

Leu Gln Leu Thr Val Ala Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln
35 40

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Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Phe
20 25 30

Gly Ile Arg Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys

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<400> 32

Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Ala Leu Gln Ala Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys

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Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile His
1 5 10 15

Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu
20 25 30

Leu Leu Glu Leu
35

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Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Ala Leu Gln Ala Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys Asp Gln
50

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Gln Ala Arg Gln Leu Val Ser Gly Leu Val Gln Gln Gln Asn Asn Ile
1 5 10 15

Leu Arg Ala Leu Glu Ala Thr Gln His Ala Val Gln Ala Leu Val Trp
20 25 30

Gly Val Lys Gln Leu Gln Ala Arg Val Leu Ala Leu Glu Arg Tyr Ile
35 40 45

Lys

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Gln Ile Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Ile Gln His Ala Leu Gln Ala Ile Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys

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Gln Ala Arg Gln Leu Val Ser Gly Leu Val Gln Gln Gln Asn Asn Ile
1 5 10 15

Leu Arg Ala Leu Glu Ala Thr Gln His Ala Val Gln Ala Leu Val Trp
20 25 30

Gly Val Arg Gln Leu Gln Ala Arg Val Leu Ala Leu Glu Arg Tyr Ile
35 40 45

Lys

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Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Thr Gln His Ala Val Gln Ala Leu Val Trp
20 25 30

Gly Val Lys Gln Leu Gln Ala Arg Val Leu Ala Leu Glu Arg Tyr Ile
35 40 45

Lys Asp Gln
50

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Gln Ala Arg Gln Leu Val Ser Gly Leu Val Gln Gln Gln Asn Asn Ile
1 5 10 15

Leu Arg Ala Leu Glu Ala Gln Gln His Ala Leu Gln Ala Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Val Leu Ala Leu Glu Arg Tyr Ile
35 40 45

Lys Asp Gln
50

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Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Ala Leu Gln Ala Thr Val Trp
20 25 30

Gly Val Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys Asp Gln
50

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Gln Ala Arg Gln Leu Val Ser Gly Leu Val Gln Gln Gln Asn Asn Ile
1 5 10 15

Leu Arg Ala Leu Glu Ala Thr Gln His Leu Val Gln Leu Leu Val Trp
20 25 30

Gly Val Lys Gln Leu Gln Ala Arg Val Leu Ala Leu Glu Arg Tyr Ile

35

40

45

Lys

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<400> 42

Gln Ile Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
 1 5 10 15

Leu Arg Ala Ile Glu Ala Ile Gln His Leu Leu Gln Leu Ile Val Trp
 20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
 35 40 45

Lys

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Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
 1 5 10 15

Leu Gln Leu Thr Val Phe Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu
 20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln
 35 40

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Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
1 5 10 15

Leu Gln Leu Thr Val Trp Gly Ile Ala Gln Leu Gln Ala Arg Ile Leu
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln
35 40

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Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
1 5 10 15

Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Ala Ala Arg Ile Leu
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln
35 40

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Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Ala
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Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu

20

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30

Ala Val Glu Arg Tyr Leu Lys Asp Gln
 35 40

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 atcctggctg ttgaacgtta cctgaaa 147

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 cag 123

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 cag 123

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 gtgctggccc tggagcgcta catcaag 147

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 cag 123

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 cag 123

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gtgctggccc tggagcgcta catcaag	147

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gagggcatcc agcacgccct gcaggccatc gtgtggggca tcaagcagct gcaggcccgc	120
atcctggccg tggagcgcta cctgaag	147

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cag	123

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cag	123

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<223> Xaa can be any naturally occurring amino acid

<400> 57

Trp Xaa Xaa Trp Xaa Xaa Xaa Ile
1 5

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Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Ala Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys Asp Gln
50

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Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
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Leu Gln Ala Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln
35 40